

AMENDMENTS TO THE CLAIMS

Please amend the claims as indicated in the following listing of all claims:

1. (Currently amended) An apparatus comprising:
an inductor; ~~and~~
an electrically conductive enclosure electromagnetically shielding the inductor, the
electrically conductive enclosure having an aperture at least as large as the
inductor, the aperture being substantially centered around a projected surface of
the inductor; ~~and~~
one or more electrically conductive links extending across the aperture and electrically
coupled to the electrically conductive enclosure.
2. (Original) The apparatus, as recited in claim 1, wherein the aperture is substantially
parallel to a plane of current flow in the inductor.
3. (Original) The apparatus, as recited in claim 1, wherein the aperture has an
approximate diameter determined by adding an approximate outer diameter of the inductor to an
approximate inner diameter of the inductor.
4. (Currently amended) The apparatus, as recited in claim 1, ~~further comprising:~~
~~one or more electrically conductive links extending across the aperture and electrically~~
~~coupled to the electrically conductive enclosure; wherein~~ the electrically
conductive links ~~reducing~~ reduce an effect of electromagnetic signals external to
the electrically conductive enclosure on the inductor.
5. (Currently amended) The apparatus, as recited in claim [[4]]1, wherein the electrically
conductive links reduce coupling in the inductor from external sources by approximately 6dB.
6. (Currently amended) The apparatus, as recited in claim [[4]]1, wherein the electrically
conductive links are approximately 5 μ m wide.

7. (Currently amended) The apparatus, as recited in claim [[4]]1, wherein the electrically conductive links are formed in the one or more traditional integrated circuit layers.

8. (Original) The apparatus, as recited in claim 1, wherein the electrically conductive enclosure includes a top plate, a bottom plate, and sidewalls.

9. (Currently amended) The apparatus, as recited in claim [[8]]1, wherein the aperture is formed by omission of one of the a top plate and a bottom plates plate of the electrically conductive enclosure.

10. (Original) The apparatus, as recited in claim 8, wherein the aperture is formed in the bottom plate.

11. (Original) The apparatus, as recited in claim 8, wherein the bottom plate is formed in one or more integrated circuit metal layers.

12. (Original) The apparatus, as recited in claim 8, wherein the top plate is formed in a metal layer.

13. (Original) The apparatus, as recited in claim 8, wherein the top plate is formed in a redistribution layer.

14. (Original) The apparatus, as recited in claim 8, wherein the top plate is formed in a package substrate.

15. (Original) The apparatus, as recited in claim 1, wherein the inductor is formed at least partially in one or more metal layers of an integrated circuit die thicker than others of the metal layers.

16. (Original) The apparatus, as recited in claim 1, wherein the inductor is formed at least partially in one or more redistribution layers formed on an integrated circuit die.

17. (Original) The apparatus, as recited in claim 1, wherein the inductor is formed on an integrated circuit die.

18. (Original) The apparatus, as recited in claim 17, wherein a conductor forming the inductor is 10 μ m wide.

19. (Original) The apparatus, as recited in claim 17, wherein the aperture and the inductor are effectively spaced at least 10.25 μ m apart.

20. (Currently amended) A method comprising:
reducing a current induced in an electrically conductive enclosure generated in response to an inductor, the induced current generating an electromagnetic field
counteracting an effective electromagnetic field generated by the inductor, the
reducing using at least one aperture in the electrically conductive enclosure; and
reducing an effective aperture utilizing links for generating a current to counteract at least some external electromagnetic signals entering the electrically conductive enclosure through the aperture.

21. (Canceled)

22. (Original) The method, as recited in claim 20 further comprising:
providing the inductor on the integrated circuit die with sufficient space with respect to the electrically conductive enclosure to reduce the current induced in the electrically conductive enclosure.

23. (Currently amended) A computer-readable medium encoding an integrated circuit product, the integrated circuit product comprising:
an inductor; and
an electrically conductive enclosure electromagnetically shielding the inductor, the electrically conductive enclosure having an aperture at least as large as the inductor, the aperture being substantially centered around a projected surface of the circuit element; and

one or more electrically conductive links extending across the aperture and electrically coupled to the electrically conductive enclosure.

24. (Currently amended) A method of manufacturing an integrated circuit product comprising:

forming an inductor; and

forming an electrically conductive enclosure electromagnetically shielding the inductor, the electrically conductive enclosure having an aperture at least as large as the inductor, the aperture being substantially centered around a projected surface of the inductor; and

forming one or more electrically conductive links extending across the aperture and electrically coupled to the electrically conductive enclosure.

25. (Original) The method, as recited in claim 24, further comprising:

forming the aperture substantially parallel to a plane of current flow in the inductor.

26. (Original) The method, as recited in claim 24, further comprising:

forming the aperture having an approximate diameter determined by adding an approximate outer diameter of the inductor to an approximate inner diameter of the inductor.

27. (Currently amended) The method, as recited in claim 24, further comprising:

~~forming one or more electrically conductive links extending across the aperture and electrically coupled to the electrically conductive enclosure, wherein the electrically conductive links reducing reduce an effect of electromagnetic signals external to the electrically conductive enclosure on the inductor.~~

28. (Currently amended) The method, as recited in claim [[27]]24, wherein the electrically conductive links reduce coupling in the inductor from external sources by approximately 6dB.

29. (Currently amended) The method, as recited in claim [[27]]24, further comprising

forming the electrically conductive links approximately 5μm wide.

30. (Currently amended) The method, as recited in claim [[27]]24, further comprising forming the electrically conductive links in [[the]] one or more traditional integrated circuit layers.

31. (Original) The method, as recited in claim 24, further comprising: forming the electrically conductive enclosure including a top plate, a bottom plate, and sidewalls.

32. (Currently amended) The method, as recited in claim [[31]]24, further comprising: forming the aperture by omitting of one of the top and bottom plates of the electrically conductive enclosure.

33. (Original) The method, as recited in claim 31, further comprising: forming the aperture in the bottom plate.

34. (Original) The method, as recited in claim 31, further comprising: forming one or more integrated circuit metal layers on an integrated circuit die; and forming the bottom plate in the one or more integrated circuit metal layers.

35. (Currently amended) The method, as recited in claim 31, further comprising: forming a metal layer on an integrated circuit die; and forming the top plate in the metal layer.

36. (Original) The method, as recited in claim 31, further comprising: forming a redistribution layer on an integrated circuit die; and forming the top plate in the redistribution layer.

37. (Original) The method, as recited in claim 31, further comprising: forming a package substrate; and forming the top plate in the package substrate.

38. (Currently amended) The method, as recited in claim 24, further comprising:
forming one or more metal layers on an integrated circuit die thicker than others of the
metal layers; and
forming the inductor at least partially in the one or more thicker metal layers.

39. (Original) The method, as recited in claim 24, further comprising:
forming redistribution layers on an integrated circuit die; and
forming the inductor at least partially in one or more redistribution layers.

40. (Original) The method, as recited in claim 24, further comprising:
forming the inductor using a conductor that is 10 μ m wide.

41. (Original) The method, as recited in claim 24, further comprising:
forming the aperture effectively spaced from the inductor by at least 10.25 μ m.

42. (Currently amended) An apparatus comprising:
means for electrically coupling nodes of an integrated circuit;
means for electromagnetically shielding the coupling means; and
means for reducing current induced in the shielding means in response to the coupling
means, the induced current generating an electromagnetic field counteracting an
electromagnetic field generated by the coupling means,
wherein the means for electromagnetic shielding comprises an aperture and one or more
electrically conductive links extending across the aperture.

43. (New) The apparatus, as recited in claim 42, wherein the aperture is formed in an
electrically conductive plate of the means for electromagnetically shielding.

44. (New) The apparatus, as recited in claim 43, wherein the electrically conductive plate
is formed by a plurality of continuous conductive patterns, the continuous conductive patterns
being substantially concentric with respect to the aperture.

45. (New) The apparatus, as recited in claim 42, wherein the aperture is at least as large as the means for electrically coupling and is substantially centered around a projected surface of the means for electrically coupling.

46. (New) The apparatus, as recited in claim 1, wherein the aperture is formed in an electrically conductive plate of the electrically conductive enclosure.

47. (New) The apparatus, as recited in claim 46, wherein the electrically conductive plate is formed by a plurality of continuous conductive patterns, the continuous conductive patterns being substantially concentric with respect to the aperture.

48. (New) The apparatus, as recited in claim 1, wherein individual ones of the electrically conductive links are coupled to each other by an electrically conductive link perpendicular to the individual ones of the electrically conductive links.

49. (New) The method, as recited in claim 20, wherein the aperture is formed in an electrically conductive plate of the electrically conductive enclosure.

50. (New) The method, as recited in claim 49, wherein the electrically conductive plate is formed by a plurality of continuous conductive patterns, the continuous conductive patterns being substantially concentric with respect to the aperture.

51. (New) The method, as recited in claim 20, wherein the aperture is at least as large as the inductor and is substantially centered around a projected surface of the inductor.

52. (New) The computer-readable medium encoding an integrated circuit product, as recited in claim 23, wherein the aperture is formed in an electrically conductive plate of the electrically conductive enclosure.

53. (New) The method, as recited in claim 24, wherein the aperture is formed in an electrically conductive plate of the electrically conductive enclosure.

54. (New) The method, as recited in claim 53, wherein the electrically conductive plate is formed by a plurality of continuous conductive patterns, the continuous conductive patterns being substantially concentric with respect to the aperture.